

CLAIMS

We claim:

1. A method for managing objects of a specified category in a directory maintained at a server in a computer network comprising a plurality of servers, each of the objects of the specified category corresponding to a distinguished name, the method effective in reducing accumulation of non-functional objects without sacrificing performance, and the method being executed in accordance with a desired priority on the server in the computer network, the method comprising the steps of:
 - identifying objects of the specified category in the directory;
 - 10 selecting a first identified object;
 - determining, if the first identified object is deleteable, whether the first identified object is accessible by testing it for valid references;
 - marking the first identified object for deletion if does not have valid references;
 - and
 - 15 deleting the marked first identified object from the directory.
2. The method of claim 1, having furthermore having the step of retesting the marked first identified object for valid references.
- 20 3. The method of claim 1, wherein furthermore the directory is a collection of published objects.
4. The method of claim 1, wherein furthermore the specified category is printer objects.
- 25 5. The method of claim 1, wherein the step of determining includes using a specifiable policy in deciding if the first identified object is deleteable.

6. The method of claim 5, wherein the specifiable policy does not allow deletion of the first identified object if the first identified object is hosted by a software version not supporting republishing the first identified object.

5 7. The method of claim 5, wherein the specifiable policy does not allow deletion of the first identified object if the first identified object is marked as being persistent.

8. The method of claim 5, wherein the specifiable policy does not allow deletion of the first identified object if the first identified object is accessed through a proxy.

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9. The method of claim 5, wherein the specifiable policy does not allow deletion of the first identified object if the first identified object is hosted by a specified server in the network.

15 10. The method of claim 5, wherein the specifiable policy does not allow deletion of the first identified object if the first identified object is in another domain.

11. The method of claim 5, wherein the specifiable policy does not allow deletion of the first identified object if the first identified object is in another forest.

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12. The method of claim 5, wherein the step of determining includes accessing the first identified object to determine if references to the first identified object are valid.

13. The method of claim 12, wherein the step of determining includes accessing a
25 parent node, wherein the parent node is determined from the distinguished name of the first identified object, to determine if references to the first identified object are valid.

14. The method of claim 13, wherein the step of determining includes accessing the
30 parent node to detect a unique identifier for the first identified object to determine if the first identified object is hosted at the parent node.

15. A method for managing printer objects in a directory maintained at a server in a computer network comprising a plurality of servers, each of the printer objects corresponding to a distinguished name, the method effective in reducing accumulation of inaccessible printer objects, and the method being executed in accordance with a desired
5 priority on the server in the computer network, the method comprising the steps of:

identifying printer objects in the directory;
selecting a first identified printer object;
determining, if the first identified printer object is deleteable, whether the first
10 identified printer object is accessible by testing it for valid references;
marking the first identified printer object for deletion if does not have valid references; and
deleting the marked first identified printer object from the directory.

15 16. The method of claim 15, having furthermore having the step of retesting the marked first identified printer object for valid references.

17. The method of claim 15, wherein furthermore the directory is a collection of published printer objects.

20 18. The method of claim 15, wherein the step of determining includes using a specifiable policy in deciding if the first identified printer object is deleteable.

19. The method of claim 18, wherein the specifiable policy does not allow deletion of
25 the first identified printer object if the first identified printer object is hosted by a software version not supporting republishing the first identified printer object.

20. The method of claim 18, wherein the specifiable policy does not allow deletion of
30 the first identified printer object if the first identified printer object is marked as being persistent.

21. The method of claim 18, wherein the specifiable policy does not allow deletion of the first identified printer object if the first identified printer object is not hosted by a print server used to access it.

5 22. The method of claim 18, wherein the specifiable policy does not allow deletion of the first identified printer object if the first identified printer object is hosted by a specified server in the network.

23. The method of claim 18, wherein the specifiable policy does not allow deletion of
10 the first identified printer object if the first identified printer object is in another domain.

23. The method of claim 18, wherein the specifiable policy does not allow deletion of the first identified printer object if the first identified printer object is in another forest.

15 24. The method of claim 18, wherein the step of determining includes accessing the first identified printer object to determine if references to the first identified printer object are valid.

20 25. The method of claim 24, wherein the step of determining includes accessing a print server, wherein the print server is determined from the distinguished name of the first identified printer object, to determine if references to the first identified printer object are valid.

26. The method of claim 25, wherein the step of determining includes accessing the
25 print server to detect a unique identifier for the first identified printer object to determine if the first identified printer object is hosted by the print server.

27. A computer readable media having computer executable instructions for carrying
out the steps of a method for managing objects of a specified category in a directory
30 maintained at a server in a computer network comprising a plurality of servers, each of

the objects of the specified category corresponding to a distinguished name, the method effective in reducing accumulation of non-functional objects without sacrificing performance, the method comprising the steps of:

- identifying objects of the specified category in the directory;
- 5 selecting a first identified object;
- determining, if the first identified object is deleteable, whether the first identified object exists by testing it for valid references;
- marking the first identified object for deletion if does not have valid references;
- and
- 10 deleting the marked first identified object from the directory.

28. A system for managing a directory of published objects and removing nonfunctional objects, the directory maintained on a computer network, and a directory service for providing access to resources represented by corresponding objects in the
- 15 directory of published objects, the system comprising:
- a pruning module including a module for testing if a specified object, from the directory of published objects, is accessible, a module for determining if the specified object is deleteable and a module for testing if software hosting the specified object is capable of republishing the specified object;
 - 20 a domain controller hosting the pruning module and the directory of published objects;
 - and
 - a thread for executing the pruning module.

29. A computer readable media having computer executable instructions for carrying
- 25 out the steps of a method for managing published printer objects in a directory maintained at a server in a computer network comprising a plurality of servers, each of the printer objects corresponding to a distinguished name, the method effective in reducing accumulation of inaccessible printer objects, and the method being executed in accordance with a desired priority on the server in the computer network, the method
- 30 comprising the steps of:

identifying printer objects in the directory;
selecting a first identified printer object;
determining, if the first identified printer object is deleteable, whether the first
identified printer object is accessible by testing it for valid references;
5 marking the first identified printer object for deletion if does not have valid
references; and
deleting the marked first identified printer object from the directory.

30. The method of claim 1, wherein the method is implemented on a thread executing
10 on a domain controller.

31. The method of claim 15, wherein the method is implemented on a thread
executing on a domain controller.

15 32. The method of claim 31, wherein the thread used to implement the method at a
domain controller has a priority specified by a network administrator.